

addition, the Examiner requests a showing that the present invention and U.S. Patent 6,093,725 were commonly owned when the present invention was made.

Rejection under 35 U.S.C. § 102 (b)

Claims 1, 2, 4-8, 11 and 12 are rejected under 35 U.S.C. § 102 (b) as being anticipated by Platz et al, U.S. Patent 5,418,130. The Office Action indicates that Platz discloses the use of compounds that are furocoumarin derivatives and that are cationic. It also notes that preferred compounds contain a frangible linker and that glutathione is suitable as a quencher to limit free radical initiated damage. With respect to the pending claims, Applicants would like to point out that the compounds encompassed by the methods of treating red cells include two limitations that are not disclosed by Platz. First, the limitation that the compounds comprise an electrophilic group wherein the electrophilic group can react covalently with the nucleic acid is not disclosed. While the cationic groups disclosed by Platz might be considered electrophilic, there is no indication that these groups react covalently with nucleic acids. The action of the compounds disclosed by Platz is via activation (e.g. by radiation) and the resulting generation of radicals resulting in DNA cleavage (see e.g. column 23, lines 40-60, column 25, lines 25-69, and column 29, lines 12-60) and is unrelated to the electrophilic reaction of Applicants' claims. Second, the limitation that the quencher comprises a nucleophilic group that can react covalently with the electrophilic group of the compound is not disclosed. In column 26, lines 41-44, the addition of glutathione is intended to quench the free radicals formed by the compounds of Platz upon activation. There is no indication in Platz that the compounds contain an electrophilic group that will be quenched by reacting covalently with the glutathione or other suitable quencher of Applicants' claim. Applicants respectfully request that this rejection be withdrawn.

Rejection under 35 U.S.C. § 102 (e) (2)

Claims 1-12, 14, 15 and 18-20 are rejected under 35 U.S.C. § 102 (e) (2) as being anticipated by Cook et al, U.S. Patent 6,093,725. The Office Action indicates that Cook discloses the use of the claimed compound β -alanine, N-(acridin-9-yl, 2-[bis(2-chloroethyl)amino]ethyl ester (Example 9) as well as the use of glutathione as a quencher (column 22). The '725 patent is a continuation-in-part of application number 08/779,885 and 08/779,830 and also claims priority to U.S. provisional application 60/043,696. The information relating to the use of glutathione in column 22 was first introduced in the 6,093,725 patent application, filed on January 6, 1998, and is not found in any of the priority documents. The present application claims priority of U.S. provisional application number 60/070,597, filed January 6, 1998. The above cited reference therefore does not qualify as 102(e) prior art as the

relevant information was filed on the same date. Applicants respectfully request this rejection be withdrawn.

Rejection under 35 U.S.C. § 103 (a) over Platz

Claims 1-17 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Platz et al, U.S. Patent 5,418,130. Based on the disclosure of Platz to use glutathione to quench a pathogen inactivating compound supposedly having Applicants' claimed structure, the Office Action states that it would be obvious to determine optimal process parameters for the quenching described in Applicants' claims. As discussed above, Platz does not disclose all of the limitations to Applicants' claimed structure. In addition, the method of quenching with glutathione disclosed by Platz is not related to the quenching according to Applicants' claims. Since Platz does not disclose quenching by covalent binding of the nucleophilic group of a quencher (e.g. glutathione) with an electrophilic group of the inactivation compound as specified in Applicants' claims, there is no suggestion to one of ordinary skill to determine the process of Applicants' claims. Applicants respectfully request this rejection be withdrawn.

Rejection under 35 U.S.C. § 103 (a) over Platz

Claims 1-20 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Cook et al, U.S. Patent 6,093,725. As discussed above, this patent does not qualify as prior art for the subject matter relating to the use of quenchers per Applicants' claims. Applicants respectfully request this rejection be withdrawn.

Rejection under obviousness-type double patenting

Claims 1-20 are rejected under obviousness-type double patenting as being unpatentable over claims 1-117 of U.S. Patent 6,270,952 B1. Applicants herewith submit a terminal disclaimer regarding this patent disclaiming the terminal part of any patent granted in the present application beyond the dates of this patents.

Claims 1-20 are rejected under obviousness-type double patenting as being unpatentable over claims 20-35 of U.S. Patent 6,093,725 in view of U.S. Patent 5,418,130. The Office Action states that the claims of the present invention differ from claims 20-35 of U.S. Patent 6,093,725 in that they do not disclose the quenching step but that this step is obvious in view of the disclosure of Platz. The Office Action indicates on page 8 that "...Platz discloses that glutathione is suitable for use as a quencher to augment red cell defenses against free radical initiated damage." and that "...the artisan of ordinary skill, recognizing the advantage of adding a quencher such as glutathione to protect the red cells from free radical damage caused by the pathogen inactivating compound of the patented claims, would have been motivated to have

added a quencher to the pathogen inactivating process recited in claims 20-35 of Cook '725." As discussed above, this argument results from a misinterpretation of Platz as it relates to Applicants' invention. Applicants' claims are not directed to a process that results in free radical initiated damage but to compounds that react covalently with nucleic acid (or a suitable quencher) through the reaction of a nucleophilic group of the nucleic acid (or quencher) with the electrophilic group of the compounds of Applicants' claims. Therefore, Platz would not motivate the artisan of ordinary skill to consider a quencher in Platz system to be effective in Applicants' unrelated system. Applicants believe that the present claims and those of 6,093,725 are patentably distinct and respectfully request that the obviousness-type double patenting rejection be withdrawn. As Applicants stance is that the present claims are patentably distinct from those of 6,093,725, a showing that these were commonly owned at the time of the present invention was made is no longer required.

CONCLUSION

For the reasons set forth above, it is respectfully submitted that Applicant's claims are in condition for allowance and such allowance is earnestly solicited.

The Assistant Commissioner is hereby authorized to charge any fees associated with this petition or credit any overpayment to **Deposit Account No. 19-4315**.

Respectfully submitted
CERUS CORPORATION

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